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Reconstruction of Akershus' rose window

How Emanuel Vigeland revealed light by darkness

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Abstract

Emanuel Vigeland (1875–1948) designed and created the rose window for Akershus Castle in Oslo between 1917 and 1920, a site that had become a symbolic seat of the new Norwegian monarchy. A self-taught stained-glass artist, Vigeland studied medieval glasswork in France and explored the lighting in sacred spaces as far afield as Italy. His work was deeply influenced by the British Arts and Crafts Movement. He was particularly fascinated by the way darkness can reveal and shape light. In 1943, the DS Selma exploded in Oslo harbour while operating under the SS. The explosion destroyed the rose window. A few surviving panels were preserved and later restored before being reinstalled in 2001. Two years later, Vigeland's original sketches were discovered by chance alongside additional fragments of the shattered glass. Combined with two historical photographs, these finds formed the basis for reconstructing the missing sections. In 2022, a meticulous, multidisciplinary project began to faithfully recreate the lost elements of the rose window.

How Emanuel Vigeland revealed light through darkness

Emanuel Vigeland was born on 2nd December 1875 in Halse, near Mandal, in Norway. He was the younger brother of the renowned sculptor Gustav Vigeland. At the age of 17, Vigeland moved to Kristiania (now Oslo) to enrol at the 'Drawing School' (Tegneskolen). His first exhibited work was a large painting of Adam and Eve, which was shown at the National Annual Art Exhibition in March 1897. This early masterpiece is now part of the collection at the National Museum in Oslo. In 1898, Vigeland was awarded a scholarship, enabling him to travel to Copenhagen, where he studied under P.S. Kroyer and Kristian Zahrtmann. Vigeland's early work was well received by the press, and in 1899 he was awarded a second travel scholarship, which he used to go to Paris and Italy to continue his studies. There, he drew inspiration from the monumental decorations of the Panthéon by Puvis de Chavannes, the ancient frescoes of Pompeii, and the Renaissance masterpieces of Padua. Religious themes remained central to his work, with recurring subjects such as Christ, The Day of Judgement, and Adam and Eve reflecting his fascination with spirituality and human destiny.

Throughout his professional life, Emanuel Vigeland travelled extensively in pursuit of both artistic development and inspiration (Wadell, 1999 and Furnes, 2013). He returned to both Copenhagen and Italy, where he studied traditional fresco techniques in depth. In 1907, he received his first commission for a monumental fresco, to decorate Vålerengen Church in Oslo. The work reflected the influence of the early Renaissance and 14th-century Italian art that he had studied during his travels.

While working on Vålerengen Church, Vigeland also began experimenting with stained glass. In 1907, he entered his first stained-glass competition, for which he designed windows

intended for Trondheim Cathedral. Although he did not win, this event marked the beginning of his lasting interest in the medium. In 1908, he built a house for his young family in Slemdal outside Oslo. A few years later, in 1913, he added Scandinavia's first artist-run stained-glass studio to the garden, reflecting his growing commitment to mastering the craft.

He began travelling more frequently to France, where he undertook an in-depth focused study of medieval stained glass. Over the following years, he filled several sketchbooks documenting his close observations of 13th-century glasswork in the cathedrals of Le Mans, Chartres, and Tours (Figure 1). These studies formed the basis for his distinctive approach to stained-glass art (Figure 2).

Figure 1

Detail of French medieval stained glass from Vigeland's sketchbook. Photo: Glasmalerei Peters.



Emanuel Vigeland's artistic approach bears a notable similarity to that of the Pre-Raphaelite movement, in that they both placed significant emphasis on the value of craftsmanship. This is evident in Vigeland's stained-glass work, which features handmade techniques and traditional materials. Captivated by the radiant glow of the medieval windows he encountered during his visits to Europe's great cathedrals, he aspired to recreate that same luminous quality in his own work.

According to the available evidence, Vigeland was keen to oversee every stage of the stained-glass process himself, from the initial sketches to the final leadwork. To this end, he commissioned a large wood-fired stained-glass kiln from Paul A. F. Schulze in Dresden and sourced mouth-blown glass from both France and Germany. Samples of these original materials still survive in his former studio.

In 1914, Vigeland became the first Scandinavian artist to produce stained-glass windows entirely within his own workshop, which is a testament to his dedication to both artistic integrity and technical mastery. The stained-glass windows for Vålerengen Church were among the first works he completed in his own studio. These early windows received positive reviews in the press, with critics noting their strong, well-defined drawing and the distinctive glow of rich, dark colour – qualities reminiscent of medieval stained glass (Albrektsen, 1999). His approach to the craft of stained glass is best captured in a 1917 interview in the newspaper *Morgenbladet*:

> He has taken it out of the hands of the manufacturers to reinvest it with the life and warmth of personal art. It has cost him years of strenuous study in the old cathedrals, countless exhausting trials, and numerous disappointments, to achieve his current mastery of the techniques. He is not content to hand over a cartoon to a craftsman glazier and ask him to take care of the rest. The work only really begins, he says, in the "glass". And he fires, paints, and fires again, discarding every scrap of glass that doesn't achieve the desired tone, refusing to concede until he is satisfied. Thus his stained-glass windows also acquire a characteristic quality ('Nye glasmalerier av Emanuel Vigeland', 1917; See also Hauglid, 2024).

Vigeland's stained glass also attracted attention beyond Norway, and he eventually received his most significant commissions in Sweden. His most notable works in Sweden are the stained-glass windows in the neo-Gothic Oscar's Church in Stockholm (1919–1929)(Malmström, 1975).

Akershus – the rose window

One of Vigeland's most significant commissions was received in 1917, when he was commissioned to design a rose window for a the medieval royal hall at Akershus Castle in Oslo. The castle was built in the late 13th century under the auspices of King Haakon V of Norway. In the early 14th century, a grand hall was constructed within the Akershus complex. The original function of this structure is unclear, and it is referred to by various names, including the Royal Banquet Hall, the King's Hall, and, since 1991, Olav V's Hall. However, scholars believe that the hall may have once been adorned with a medieval stained-glass rose window. Throughout its long and eventful history, Akershus Castle has

served as both a royal residence and a stronghold. However, it declined during the centuries of Danish rule. In the early 20th century, Akershus regained its symbolic importance as the ceremonial seat of the newly re-established Norwegian monarchy, thus making it a suitable location for Vigeland's spiritually charged work. The castle was severely damaged by a fire in 1527, and the royal hall, which featured a Gothic rose window, was never rebuilt. During the 16th century, the castle was significantly expanded and transformed into a modern fortress. The Royal Hall was not carefully restored until the 20th century, as part of a broader effort to revive the historical significance of the medieval castle.

Figure 2

View of the hall under reconstruction, around 1915. Photo: Photographer unknown. Archive, The Directorate for Cultural Heritage.



Consequently, Akershus Castle was restored and regained its status as a national symbol of Norway's independence. Since then, the castle has been used by the Norwegian government and the royal family for official ceremonies and representative events. Furthermore, it was chosen as the royal burial site for the newly established dynasty.

Figure 3

Overview of the scenes depicted in the rose window. Illustration after Tschudi-Madsen (2001).



Figure 4

Akershus' rose window after its installation in 1920. Photo: Vœring, approx. 1920. Archive, The Directorate for Cultural Heritage.



The Royal Hall was rebuilt in the English Decorated Gothic style typical of the 1300s. When Emanuel Vigeland was commissioned to fill the Gothic tracery of the rose window with stained glass, it became his largest secular decorative commission (Berg & Hauglid, 2023). Vigeland designed and crafted the window in his own studio at Slemdal. He undertook the completion and installation of the rose window in 1920.

The central motif features an *Agnus Dei* encircled by eight quatrefoils and eight smaller trefoil panels, along with additional spandrels (Figure 3). The quatrefoils depict various

saints, while the smaller trefoil panels feature representations of creatures and monsters. Starting from the top and proceeding clockwise around the central motif, the following saints are depicted: The Virgin Mary with the infant Jesus, and St. Olaf, St. Hallvard, St. Svithun, St. Sunniva, St. Magnus, St. Thorlákr, and St. Jon (Figure 4).

Figure 5

View of the rose window prior to the reconstruction of the missing sections. Photos: Glasmalerei Peters.



All of these saints were the patron saints of medieval Norwegian dioceses. Vigeland's design thus served as a visual map of medieval Norwegian Christianity. However, the stained-glass window was destroyed less than 25 years after its completion (Tschudi-Madsen, 2001).

On 19 December 1943, the SS *Selma*, a German transport ship loaded with ammunition, exploded in the Oslo district of Filipstad. The blast was devastating, killing more than 100 people and injuring around 400. Numerous buildings were severely damaged, as was the rose window, which faced the port.

Unfortunately, only two black-and-white photographs exist that show what the stained glass looked like before it was destroyed in 1943. Only four quatrefoils and five trefoil panels survived the explosion. These fragments were carefully restored in 2001 by the Nidaros Cathedral restoration workshop in Trondheim (Figure 5). Missing sections of the window were filled with clear, diamond-shaped glazing.

New opportunities

In 2003, thousands of sketches were discovered hidden in a suspended ceiling during electrical work in Emanuel Vigeland's studio. This fortunate find rekindled the desire to reconstruct the missing parts of the rose window, since the surviving parts represented an incomplete program and the dark panels were overwhelmed by the clear light passing through the diamond-shaped glazing.

The available sources – two surviving photographs, the remaining panels still in situ, and the artist's original sketches – formed a promising foundation for the reconstruction. Furthermore, an extensive collection of glass fragments, preserved in the artist's studio, was carefully examined to determine whether any pieces belonged to the destroyed panels of the Akershus rose window. While many fragments were found to be unrelated or unidentifiable, several larger pieces were conclusively matched to the original window by comparison with the other sources.

A comparison of the artist's full-scale sketches with the surviving fragments and the restored panels in situ revealed a striking correspondence. Although Vigeland primarily worked alone on the design, minor adjustments were made during the studio phase. Overall, the original sketches provided a solid foundation for reconstructing the missing sections (Figure 6).

In September 2022, the remaining panels were carefully removed from the stone tracery, enabling conservators to carry out the necessary stone restoration work. Once dismantled, all available sources – including the surviving panels, fragments found in Vigeland's studio, and the original sketches – were gathered in the studio. The fragments proved invaluable in confirming the choice of colours, complementing the artist's own colourized paper sketches. The studio's glass painters closely studied details such as hands, fur, and hair fragments to understand Vigeland's unique painting style.

Figure 6

The only two photographs before the destruction, alongside Vigeland's original full-scale sketch and the reconstruction design. Photos: Glasmalerei Peters.



Other existing works and preparatory studies by Emanuel Vigeland were also examined to gain further insight into his brushwork and artistic approach. Vigeland's style is characterized by the remarkable dynamism of his figures, as well as his extraordinary attention to detail – he adorned almost every dot and line with care and precision.

This distinctive approach presented the glass painters with a considerable challenge during the reconstruction process. Another notable feature of Emanuel Vigeland's stained glass work is his deliberate pursuit of the 'glow' he had observed in medieval glass, which he achieved by applying multiple layers of grisaille to mouth-blown glass.

Figure 7

One of the fragments damaged by the explosion that hit the rose window. Photo: Glasmalerei Peters.



It was essential to compare the black-and-white photographs with the original to determine whether the artist had made any alterations to the lead lines. Following an in-depth study and analysis, the sketching phase began, which was discussed in detail before the practical reconstruction work commenced.

It appears that the stained glass made by Vigeland that was studied was fired at a slightly too high temperature, causing the surface of the glass to melt partially. This step was not replicated in the reconstruction process. Instead, the glass was fired at a suitable temperature to fix the grisaille and activate the silver stain.

The shading was applied in multiple layers to replicate the depth and darkness of the original panels. Achieving the same intensity proved extremely challenging, and it is difficult to speculate about the kind of lighting Vigeland used while working or how he was able to paint with such dark colours and still see what he was doing.

Figure 8

Detail of The Virgin and the Unicorn, Emanuel Vigeland 1922–23. On display in the National Museum, Oslo. Photo: Glasmalerei Peters.



Figure 9

Painting the reconstruction with constant comparison to the original fragments. Photo: Glasmalerei Peters.



Figure 10

Detail of grisaille painting on mouth-blown glass for the reconstruction. Photo: Glasmalerei Peters.



There was a lack of adequate reference material regarding the spandrels distributed across the rose window. The surviving photographs did not capture these areas in sufficient detail. Consequently, it was decided to fill the spandrels with lightly painted red glass, based on a preliminary sketch by Vigeland that was discovered during the research process.

Meanwhile, the surviving fragments were carefully conserved to make them suitable for display and to reveal as much detail of their painted surfaces as possible (Figure 7). This also enabled an in-depth study of Vigeland's painting technique (Figure 8). The four original quatrefoil panels were gently cleaned, minimally restored, and prepared for their reinstallation with a protective glazing system to ensure their long-term preservation.

Figure 11

The completed rose window after installation. Photo: Glasmalerei Peters.



Glass samples found in Vigeland's studio confirmed that he had already been using mouth-blown glass from Glashütte Lamberts, in Waldsassen, alongside glass from the manufacturers Jumet and La Rochére. For the reconstruction, Lamberts' glass was again chosen as the base material and was painted with grisaille and a small amount of silver stain (Figures 9 and 10). The completed panels were signed, leaded, and puttied. In April 2023, the protective glazing was installed in the restored stone tracery of the rose window in the hall at Akershus Castle, followed by the stained-glass panels (Figure 11).

Theory behind the project

The *Teoria del Restauro* by Cesare Brandi and the *Venice Charter* (n.d.) are foundational to the contemporary understanding and practice of conservation and restoration. Adhering to these principles, the abundance of historical sources available for the Akershus rose window justified its reconstruction (Brandi, 2022).

The newly produced panels were designed to be distinguishable from the originals upon closer inspection, while simultaneously restoring the window's visual unity. This unity had previously been disrupted by the insertion of clear, diamond-shaped glazing, which overpowered the dark stained glass visually and hindered its proper interpretation.

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Conclusion

The rose window at Akershus is not the only piece of stained-glass by Emanuel Vigeland that has been lost. Several of his windows have been destroyed over the years due to war, fire, or other circumstances.

One example is at the church in Gjerpen, Telemark, where Vigeland created two stained-glass windows in 1919. On 13th November 2003, the church was set on fire by two individuals identifying as Satanists, and the windows were destroyed in the ensuing blaze. Fortunately, thanks to two high-resolution photographs taken by Kjartan Hauglid on large-

format film in 1999 – just four years before the fire – the stained-glass windows could be reconstructed later.

Another loss occurred in 1979 during restoration work at Vålerengen Church. Hot work on the roof caused a fire that destroyed the church, along with Vigeland's stained-glass windows depicting scenes from the Gospel of Luke. For a long time, it was believed that only black-and-white photographs existed of these windows. However, the existence of a series of colour photographs of the stained-glass windows came to light. The colour photos were first published in Lee, Seddon & Stephens (1976; See also Schaufler, 2024). The colour photos were first published in Lee, L., Seddon, G., & Stephens, F. (1976). *Stained glass*. Crown Publishers, credited to 'the Rev. Odd Øverland Hansen/Photo, Frank-Tore Melby'. See also Schaufler, R. (2024). *Vålerenga kirke. Kirken, brannen og kunsten*. Reiner Schaufler . As craftsmen, artists, and art historians, this reminds us of our vital responsibility to ensure that even more recent stained-glass works are thoroughly and properly documented. Future generations – and future conservators – will thank us for it.

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Timeline – Emanuel Vigeland (1875–1948)

1875. Emanuel August Vigeland was born at Halse near Mandal on 2 December 1875, to parents Elesæus Thorsen (1835–1886) and Anna Aanensdatter (1835–1907). Younger brother of Gustav Vigeland (1869–1943).

1894. Attends *The Royal Drawing School* in Kristiania (1894–1897).

1897. Debut at the Autumn Exhibition with *Adam and Eve*. Finne's scholarship (1897–1898).

1898. Three works at the Autumn Exhibition: *Fight over Woman*, *A Couple*, and a sketch for a wall decoration. Becomes a student at P.S. Krøyer's painting school, Copenhagen (1898–1899).

1899. Houen's scholarship (1899–1901). Student of Fernand Cormon in Paris (1899–1900).

1900. Study trips to Italy, Spain, and England (1900–1902).

1902. Solo exhibition in Kristiania. Marries painter Valborg Kristine Madsen (1879–1951).

1903. Valborg and Emanuel move to Copenhagen. Daughter Maria is born.

1904. Participates in the fresco decoration of the main staircase in the Copenhagen Town Hall (1904–1905). Son Per is born.

1905. Benneches' scholarship. Study trips to Egypt, Jerusalem, and Italy (1905–1906).

1906. Fresco paintings, chandelier, and stained glass in Vålerengen Church, Oslo (1906–1914).

1907. Begins to work with stained glass. Fresco altarpiece, Vaterland Parish Church, Oslo. Paintings for altarpieces in Holm Church and Rødven Church, Møre og Romsdal. Study trip to the cathedrals of northern France: Le Mans, Chartres, and Tours (1907–1910). Fresco paintings, chandelier, and stained glass in Oslo Cathedral (1907–1916).

1908. Designs and supervises the construction of his own house with a studio in Grimelundsveien at Slemdal, outside Oslo. Rejected in the competition for stained glass in Trondheim Cathedral.

1910. Invited to participate in the competition for the decoration of the assembly hall, University of Oslo (1910–1911). Fresco paintings, stained glass, and lighting items for the newly built crematorium, Western Cemetery, Oslo (1910–1924).

1911. Stained glass, Kråkerøy Church. Stained glass, pulpit, altar, altarpiece, lighting items, etc., Bryn Church, Bærum (1911–1914).

1913. Builds Scandinavia's first artist-run stained-glass studio at Slemdal. Fresco paintings in the vestibule of the University Library, Oslo. Sketches for the decoration of Oslo Guildhall.

1915. Stained glass and altarpiece, Uranienborg Church, Oslo (1915–1946).

1916. Stained glass, Grefsenåsen Chapel, Oslo. Fresco painting, Paulus Congregation House, Oslo. Stained glass, Fredrikstad Cathedral (1916–1917).

1917. Stained glass for the rose window, Akershus Castle, Oslo (1917–1920). Stained glass, Olberg Church, Krødsherad. Stained glass, Borgestad Church, Porsgrunn (1917–1919). Son Imm is born.

1918. Fountain group, *The Virgin and the Unicorn*, Nygårdsparken in Bergen (1918–1920).

1919. Exhibits stained glass in Stockholm and Copenhagen. Fresco paintings and stained glass, the Church of Nordlandet, Kristiansund. Mosaics, stained glass, etc., Gjerpen Church, Skien (1919–1921). Stained glass, King Oscar's Church, Stockholm (1919–1929). Establishes a school for stained glass in his studio at Slemdal (1919–1922).

1921. Chandeliers etc., Immanuel Church, Halden (1921–1922).

1922. Stained glass in the staircase, Arts & Crafts Museum in Oslo (now in the collection of the National Museum), (1922–1923). Chandelier and wall lights, Stavanger Cathedral (1922–1924).

1923. Chandelier, Trinity Church, Oslo.

1925. Stained glass, Århus Cathedral (1925–1926).

1926. Stained glass, Church of Our Lady, Kalundborg (1926–1928). Stained glass, Bishop's Chapel, Stavanger Cathedral (1926–1927). Initiates building of his third studio at Slemdal (1926–1927). This studio was later named *Tomba Emmanuelle* and is today the artist's mausoleum.

1930. Stained-glass exhibition in *American Fine Art Society*, New York. Stained glass, Lund Cathedral, (1930–1936).

1940. Stained glass, Aurland Church.

1940. Dies in Oslo on 22 December.